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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,167	01/24/2005	Shinya Kawachi	SHM-15820	2966
40854 7590 04/07/2008 RANKIN, HILL, & CLARK LLP 38210 Glenn Avenue WILLOUGHBY, OH 44094-7808				
EXAMINER				
BEST, ZACHARY P				
ART UNIT		PAPER NUMBER		
4191				
MAIL DATE		DELIVERY MODE		
04/07/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/517,167

**Applicant(s)**

KAWACHI ET AL.

**Examiner**

Zachary Best

**Art Unit**

4191

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)  
Paper No(s)/Mail Date 12072004\_03222007
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Inventor's Patent Application
- 6) ☐ Other: \_\_\_\_\_

**FUEL CELL SEPARATOR AND METHOD OF  
MANUFACTURING THE SEPARATOR**

Examiner: Z. Best    S.N. 10/517,167    Art Unit: 4191    March 25, 2008

***Claim Objections***

1. Claim 4 is objected to for the misspelling of "silicone" in paragraph 4. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C 102(a) as being anticipated by the prior art admitted in the instant disclosure.

The prior art as shown in Figures 6 and 7 of the instant disclosure illustrates a fuel cell separator having a central part (113) and an outer peripheral part (114), wherein multiple gas passages for guiding reaction gases and multiple reaction product passages for guiding a reaction product are provided by the outer peripheral part (107, 108), the reaction gases being guided from the gas passages to the central part and reaction product produced at the central part being guided to the reaction product passages (fig. 6), wherein the central part

comprises a metal member, the peripheral part comprises a rubber member (page 2, line 24 – page 3, line 1), and a projecting part surrounding the central part is formed integrally with the rubber member (115).

4. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsukawa et al. (U.S. Patent No. 6,153,326 A).

Regarding Claim 1, Matsukawa et al. teach a fuel cell separator having a central part (31) and an outer peripheral part (33a, 33b), wherein multiple gas passages for guiding reaction gases and multiple reaction product passages for guiding a reaction product are provided by the outer peripheral part (38), the reaction gases being guided from the gas passages to the central part and the reaction product produced at the central part being guided to the reaction product passages (43), wherein the central part comprises a metal member (31), the peripheral part comprises a rubber member (33a, 33b), and a projecting part surrounding the central part is formed integrally with the rubber member (21).

Regarding Claim 2, Matsukawa et al. teach the rubber member is made of silicone (abstract).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the

subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsukawa et al. (U.S. Patent No. 6,153,326 A) in view of Styczynski (U.S. Patent No. 6,113,827 A).

Regarding Claims 3-4, Matsukawa et al. teach a method for manufacturing a fuel cell separator, said fuel cell separator having a silicone rubber peripheral part (33a, 33b) and a metal central part (31), wherein multiple gas passages for guiding reaction gases and multiple reaction product passages for guiding a reaction product are provided by the peripheral part (38), reaction gases being guided from the gas passages to the metal central part and reaction product produced at the central part being guided to the reaction product passages (43), comprising the steps of: disposing the metal central part in a cavity of an injection-molding mold (col. 3, lines 55-57), maintaining an inside of the cavity at a specific temperature to control the viscosity of the silicone (col. 2, lines 42-47), injecting a liquid silicone rubber into the cavity while said cavity is at the maintained temperature and guiding the liquid silicone rubber to an edge part of the central part (col. 3, lines 38-48). While Matsukawa et al. does teach the importance of mold temperature in relation to the viscosity and set properties of the silicone rubber, Matsukawa et al. fail to teach the step of heating the central part to reactively set the silicone rubber guided to the edge part of the central part.

Styczynski teaches a method of injection molding silicone comprising the steps of injecting silicone rubber into the mold at a temperature such that the rubber will not reactively set (col. 5, lines 40-42) and then heating the mold cavity to a sufficient degree that

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will set the silicon rubber (col. 5, lines 49-51). Styczynski teaches that it is advantageous to use this method because it will ensure that the silicone will not prematurely set (col. 5, lines 40-42). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the method of Matsukawa et al. with the additional steps of injecting silicone rubber into the mold at a temperature such that the rubber will not reactively set and then heating the mold cavity to a sufficient degree that will set the silicon rubber (inherently heating the metal central part as well) because Styczynski teach that it will protect against premature setting of the silicone rubber.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary Best whose telephone number is (571) 270-3963. The examiner can normally be reached on Monday to Thursday, 7:30 - 5:00 (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571) 272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

zpb

/Dah-Wei D. Yuan/  
Supervisory Patent Examiner, Art Unit 4191